STK11 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	STK11, Polyclonal Antibody
Full Product Name	STK11 Rabbit pAb
Product Gene Name	anti-STK11 antibody
Product Synonym Names	PJS; LKB1; hLKB1
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Form/Format	PBS with 0.02% Sodium Azide, 50% Glycerol, pH 7.3.
Purity/Purification	Affinity Purified
Preparation and Storage	Store at -20 degree C. Avoid freeze/thaw cycles.
Molecular Weight	54kDa
OMIM	175200
3D Structure	ModBase 3D Structure for Q15831
Immunogen	Recombinant fusion protein containing a sequence corresponding to amino acids 134-433 of human STK11 (NP_000446.1).
Cellular Localization	Cytoplasm, Membrane, Mitochondrion, Nucleus
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-STK11 antibody	Western Blot (WB), Immunohistochemistry (IHC), Immunofluorescence (IF)
Application Notes for anti-STK11 antibody	WB: 1:500-1:2000 IHC: 1:50-1:200 IF: 1:50-1:200

Related Product Information for anti-STK11 antibody	Tumor suppressor serine/threonine-protein kinase that controls the activity of AMP-activated protein kinase (AMPK) family members, thereby playing a role in various processes such as cell metabolism, cell polarity, apoptosis and DNA damage response. Acts by phosphorylating the T-loop of AMPK family proteins, thus promoting their activity: phosphorylates PRKAA1, PRKAA2, BRSK1, BRSK2, MARK1, MARK2, MARK3, MARK4, NUAK1, NUAK2, SIK1, SIK2, SIK3 and SNRK but not MELK. Also phosphorylates non-AMPK family proteins such as STRADA, PTEN and possibly p53/TP53. Acts as a key upstream regulator of AMPK by mediating phosphorylation and activation of AMPK catalytic subunits PRKAA1 and PRKAA2 and thereby regulates processes including: inhibition of signaling pathways that promote cell growth and proliferation when energy levels are low, glucose homeostasis in liver, activation of autophagy when cells undergo nutrient deprivation, and B-cell differentiation in the germinal center in response to DNA damage. Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton. Required for cortical neuron polarization by mediating phosphorylation and activation of BRSK1 and BRSK2, leading to axon initiation and specification. Involved in DNA damage response: interacts with p53/TP53 and recruited to the CDKN1A/WAF1 promoter to participate in transcription activation. Able to phosphorylate p53/TP53; the relevance of such result in vivo is however unclear and phosphorylation may be indirect and mediated by downstream STK11/LKB1 kinase NUAK1. Also acts as a mediator of p53/TP53-dependent apoptosis via interaction with p53/TP53: translocates to the mitochondrion during apoptosis and regulates p53/TP53-dependent apoptosis pathways. In vein endothelial cells, inhibits PI3K/Akt signaling activity and thus induces apoptosis in response to the oxidant peroxynitrite (in vitro). Regulates UV radiation-induced DNA damage response mediated by CDKN1A. In association with NUAK1, phosphorylates CDKN1A in response to UV radiation and contributes to its degradation which is necessary for optimal DNA repair (PubMed:25329316).
Other Notes	Small volumes of anti-STK11 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for STK11 purchase	MBS8544814 is an antibody targeting STK11. Also known as STK11 Rabbit pAb. Reactive in Human, Mouse, Rat. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for STK11. It may not necessarily be applicable to this product.

NCBI GI #	4507271
NCBI GeneID	6794
NCBI Accession #	NP_000446.1
UniProt Primary Accession #	Q15831
UniProt Related Accession #	Q15831
GenBank Nucleotide #	NP_000446.1
NCBI Official Full Name	serine/threonine-protein kinase STK11
NCBI Official Synonym Full Names	serine/threonine kinase 11
NCBI Official Symbol	STK11
NCBI Official Synonym Symbols	PJS; LKB1; hLKB1
UniProt Protein Name	Serine/threonine-protein kinase STK11
UniProt Synonym Protein Names	Liver kinase B1; LKB1; hLKB1; Renal carcinoma antigen NY-REN-19
Protein Family	Serine/threonine-protein kinase
UniProt Gene Name	STK11
UniProt Synonym Gene Names	LKB1; PJS; LKB1; hLKB1
UniProt Entry Name	STK11_HUMAN
NCBI Protein Information	serine/threonine-protein kinase STK11

NCBI Summary for STK11	This gene, which encodes a member of the serine/threonine kinase family, regulates cell polarity and functions as a tumor suppressor. Mutations in this gene have been associated with Peutz-Jeghers syndrome, an autosomal dominant disorder characterized by the growth of polyps in the gastrointestinal tract, pigmented macules on the skin and mouth, and other neoplasms. Alternate transcriptional splice variants of this gene have been observed but have not been thoroughly characterized. [provided by RefSeq, Jul 2008]
UniProt Comments for STK11	LKB1: a S/T protein kinase of the CAMKL family. A tumor suppressor that helps control cell structure, polarity, apoptosis and energy homeostasis. Phosphorylates AGS3 (activator of G-protein signaling 3) GPR domains, regulating the interaction of GPR-containing proteins with G-proteins. A cytosolic protein complex comprised of LKB1, the pseudokinase STRAD, and the MO25 scaffold protein. Activates AMPK and several related protein kinases. AMPK plays a predominant role as the master regulator of cellular energy homeostasis, controlling downstream effectors that regulate cell growth and apoptosis in response to cellular ATP concentrations. The Lkb1/Strad/Mo25 complex can polarize single epithelial cells, leading to the formation of a brush border containing microvilli on the apical surface. Mutation in the corresponding gene causes Peutz-Jeghers syndrome (PJS), an autosomal dominant disorder characterized by benign GI tract polyps and dark skin lesions of the mouth, hands and feet. A variety of other LKB1 gene mutations have been associated with the formation of sporadic cancers in several tissues. Protein type: Protein kinase, CAMK; Kinase, protein; EC 2.7.11.1; Protein kinase, Ser/Thr (non-receptor); Autophagy; Tumor suppressor; CAMK group; CAMKL family; LKB subfamily Chromosomal Location of Human Ortholog: 19p13.3 Cellular Component: mitochondrion; membrane; cytoplasm; nucleus; cytosol Molecular Function: protein serine/threonine kinase activity; protein binding; p53 binding; magnesium ion binding; protein complex binding; protein kinase activator activity; ATP binding; LRR domain binding Biological Process: Golgi localization; response to glucagon stimulus; protein heterooligomerization; protein amino acid autophosphorylation; Wnt receptor signaling pathway through beta-catenin; response to lipid; glucose homeostasis; T cell receptor signaling pathway; protein amino acid phosphorylation; anoikis; negative regulation of cell proliferation; positive regulation of gluconeogenesis; regulation of fatty acid biosynthetic process; vasculature development; tissue homeostasis; regulation of cell growth; cell cycle arrest; positive thymic T cell selection; regulation of Wnt receptor signaling pathway; positive regulation of transforming growth factor beta receptor signaling pathway; regulation of protein kinase B signaling cascade; positive regulation of peptidyl-tyrosine phosphorylation; axonogenesis; establishment of cell polarity; insulin receptor signaling pathway; activation of protein kinase activity; energy reserve metabolic process; autophagy; positive regulation of axonogenesis; negative regulation of cell growth; response to ionizing radiation; response to DNA damage stimulus; spermatid development Disease: Pancreatic Cancer; Testicular Germ Cell Tumor; Peutz-jeghers Syndrome
Research Articles on STK11	**1.** The present study is focused to analyze the effects on the structural dynamics of LKB1 caused by the 4 pathogenic missense mutations (L67P, L182P, G242V, and R297S), which are reported to reduce the catalytic activity.
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